Algebra II

Algebra II introduces students to advanced functions, with a focus on developing a strong conceptual grasp of the expressions that define them. Students learn through discovery and application, developing the skills they need to break down complex challenges and demonstrate their knowledge in new situations.

Course topics include quadratic equations; polynomial functions; rational expressions and equations; radical expressions and equations; exponential and logarithmic functions; trigonometric identities and functions; modeling with functions; probability and inferential statistics; probability distributions; and sample distributions and confidence intervals.

This course supports all students as they develop computational fluency and deepen conceptual understanding. Students begin each lesson by discovering new concepts through guided instruction, and then confirm their understanding in an interactive, feedback-rich environment. Modeling activities equip students with tools for analyzing a variety of real-world scenarios and mathematical ideas. Journaling activities allow students to reason abstractly and quantitatively, construct arguments, critique reasoning, and communicate precisely. Performance tasks prepare students to synthesize their knowledge in novel, real-world scenarios and require that they make sense of multifaceted problems and persevere in solving them.

Length:Two Semesters

UNIT 1: EXPRESSIONS, EQUATIONS AND INEQUALITIES

LESSON 1: ALGEBRAIC EXPRESSIONS

Study: Algebraic Expressions
Identify the parts of numerical and algebraic expressions including terms, factors, and coefficients. Interpret complicated expressions by viewing one or more of their parts as a single entity
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Algebraic Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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LESSON 2: SOLVING LINEAR EQUATIONS

Study: Solving Linear Equations
Review the strategy for isolating variables in multistep equations. Explore equations that have zero, one, or infinite solutions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Basic Collecting of Like Terms
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Advanced Collecting of Like Terms
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Finding Number of Solution Sets
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SOLVING LINEAR INEQUALITIES

Study: Solving Linear Inequalities
Apply the techniques you have learned so far in this unit to solve multistep and compound inequalities.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Solving Linear Inequalities
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: SOLVING ABSOLUTE VALUE EQUATIONS AND INEQUALITIES

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Study: Solving Absolute Value Equations and Inequalities
Identify problems which require the use of absolute value.
Transform absolute value problems into a simpler set of inequalities. Learn how to solve absolute value equations and inequalities.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Absolute Value Equations and Inequalities
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Solving Inequalities
Use a number line to represent the possible answers that exist for a given problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: SOLVING LITERAL EQUATIONS AND FORMULAS

Study: Solving Literal Equations and Formulas
Learn how to solve literal equations for one variable.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Literal Equations and Formulas
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Solving Literal Equations and Formulas
Explain how to solve a literal equation for a given variable.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: EXPRESSIONS, EQUATIONS AND INEQUALITIES WRAP-UP

Checkup: Practice Problems

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Check your understanding of the unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Expressions, Equations and Inequalities
Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 20 mins Scoring: 0 points

Test (CS): Expressions, Equations and Inequalities
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Expressions, Equations and Inequalities
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 2: FUNCTIONS AND RELATIONS

LESSON 1: WHAT IS A FUNCTION?

Study: Relating to Functions
Learn about functions, their graphs, and some special functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on functions.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: What Is a Function?
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: GRAPHING FUNCTIONS

Study: Graphing Functions
Learn the vertical line and horizontal line tests for evaluating a function. Evaluate a function for given values and explore special functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems

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Complete a set of practice problems on graphing functions.
Duration: 0 hrs 25 mins

Quiz: Graphing Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: LINEAR FUNCTIONS

Study: Linear Functions
Learn about slope and the three main forms of linear functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on linear functions.
Duration: 0 hrs 25 mins

Quiz: Linear Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: LINEAR EQUATIONS AND INEQUALITIES

Study: Linear Equations and Inequalities
Learn how to solve linear equations and inequalities.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on linear equations and inequalities.
Duration: 0 hrs 25 mins

Quiz: Linear Equations and Inequalities
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: The Summer Job
Work through a real-world problem involving linear equations and inequalities.
Duration: 0 hrs 30 mins Scoring: 20 points

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LESSON 5: LINEAR SYSTEMS

Study: Linear Systems
Find the point of intersection of linear systems using algebra, graphing, and matrices.
Duration:
0 hrs 35 mins

Study: Connection to Business: Linear Programming
Learn how businesses solve problems using linear programming.

Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on linear systems.
Duration: 0 hrs 25 mins

Quiz: Linear Systems
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20
points

Practice: Modeling: Best Ticket Deal
Model ticket pricing using an equation.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: FUNCTIONS AND RELATIONS WRAP-UP

Checkup: Practice Problems
Check your understanding of the unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Functions and Relations
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 20
mins Scoring: 0 points

Test (CS): Functions and Relations
Take a computer-scored test to check what you have learned in this unit.
Duration:
0 hrs 40 mins Scoring: 50 points

Test (TS): Functions and Relations
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0
hrs 30 mins Scoring: 50 points

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UNIT 3: QUADRATIC FUNCTIONS

LESSON 1: FACTORING $X^2 + BX + C$

Study: Factoring $x^2 + bx + c$
Learn about factoring quadratic trinomials with leading coefficients of 1; rules for finding the constant term and coefficient of the *x*-term; using a table to factor trinomials; and diagramming signs while factoring trinomials.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Binomial Factors of Trinomials
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Factoring Trinomials
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: FACTORING $AX^2 + BX + C$

Study: Factoring $ax^2 + bx + c$
Learn about factoring trinomials with leading coefficients other than 1; factoring out a leading coefficient of -1; how values of factors relate to values of a trinomial; finding factor pairs of leading coefficients and constant terms; and finding signs in factors of trinomials with leading coefficients other than 1.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Factoring Trinomials (Basic)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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Quiz: Factoring Trinomials (Advanced)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SPECIAL CASES

Study: Special Cases
Identify and factor differences of squares and perfect-square trinomials.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Factoring a Difference of Squares
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Factoring Perfect Square Trinomials
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Sum or Difference of Two Cubes
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Breakdown Ahead
Explain your understanding of factoring to help a peer solve a problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: SOLVING QUADRATIC EQUATIONS

Study: Solving Quadratic Equations
Learn about solving quadratic equations using factoring and the zero product rule, manipulating a quadratic equation into standard form, and solving quadratic equations with perfect-square trinomials.

Duration: 0 hrs 35 mins Scoring: 0 points

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Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Factoring with the Zero Product Rule
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Converting Quadratics to Standard Form
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Quadratics with Perfect Square Trinomials
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: COMPLETING THE SQUARE

Study: Completing the Square
Learn the "completing the square" method of solving quadratic equations. Practice adding a strategic number to both sides of an equation to make one side a perfect-square trinomial. Then solve the equation by taking the square root of both sides and simplifying. Use algebra tiles to determine the number needed to complete the square.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Completing the Square
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20
mins Scoring: 20 points

Quiz: Completing the Square (Advanced)
Take a quiz to check your understanding of what you have learned.
Duration:
0 hrs 20 mins Scoring: 20 points

LESSON 6: THE QUADRATIC FORMULA

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Study: The Quadratic Formula
Learn about types of equations that can be solved with the quadratic formula; complex numbers; discriminants; and finding roots (including complex roots) using the quadratic formula.
Duration: 0 hrs 35 mins
Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Complex Numbers and Discriminants
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: The Quadratic Formula
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20
mins Scoring: 20 points

LESSON 7: GRAPHS OF QUADRATIC FUNCTIONS

Study: Graphs of Quadratic Functions
Relate factors of a quadratic function to the graph of a parabola and its corresponding *x*-intercepts. Locate the vertex of a quadratic function graphically and algebraically. Use the discriminant of the quadratic formula to identify the number and types of solutions to a given quadratic equation, as well as to visualize its corresponding graph.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Quadratic Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Quiz: Working with the Discriminant
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Practice: Modeling: Pumpkin Launch
Model a graph with real world data.

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Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 8: IMAGINARY NUMBERS

Study: Imaginary Numbers
Learn about imaginary and complex numbers, perform basic arithmetic operations on complex numbers, and solve equations with imaginary and complex numbers.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Imaginary Numbers
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

Quiz: Operations on Complex Numbers
Take a quiz to check your understanding of what you have learned.
Duration:
0 hrs 20 mins Scoring: 20 points

Quiz: Quadratics With Complex Solutions
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: NONLINEAR SYSTEMS OF EQUATIONS

Study: Nonlinear Systems of Equations
Learn about solution sets for nonlinear systems of equations, solving nonlinear systems of equations using the substitution method, choosing which variable to isolate, substituting a squared variable, and determining the number of solutions. Explore a human-cannonball case study.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Nonlinear Systems of Equations
Take a quiz to check your understanding of what you have learned.

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Duration: 0
hrs 20 mins Scoring: 20 points

LESSON 10: NONLINEAR SYSTEMS OF INEQUALITIES

Study: Nonlinear Systems of Inequalities
Learn about solution sets for and graphs of nonlinear inequalities; boundaries
of parabolas; three steps to graphing nonlinear inequalities; and nonlinear systems of inequalities.
Duration: 0 hrs 35 mins
Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Nonlinear Inequalities
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 11: QUADRATIC FUNCTIONS WRAP-UP

Checkup: Practice Problems
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins Scoring: 0
points

Review: Quadratic Functions
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 20 mins
Scoring: 0 points

Test (CS): Quadratic Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0
hrs 40 mins Scoring: 50 points

Test (TS): Quadratic Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs
30 mins Scoring: 50 points

UNIT 4: TRANSFORMING FUNCTIONS

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LESSON 1: INVERSES

Study: Inverses
Learn about undoing functions, mapping diagrams of inverse functions, and finding the equations for inverse functions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Inverses with Variables *x* and *y*
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Inverses with Other Variables
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: GRAPHS OF INVERSES

Study: Graphs of Inverses
Learn how to convert the graph of a given function to the graph of its inverse by swapping coordinates of all ordered pairs. Use mapping diagrams, horizontal line tests, and the concept of symmetry across the line $y = x$ to determine if the inverse of a given function is also a function.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Inverses
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Inverting Time and Temperature
Model the rate of melting ice using a graph, and experiment with inverting the axes.
Duration: 0 hrs 30 mins Scoring: 20 points

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LESSON 3: PARENT FUNCTIONS

Study: Parent Functions
Learn about the properties and graphs of linear parent functions, quadratic parent functions, absolute value parent functions, and reciprocal parent functions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Parent Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 4: SHIFTING FUNCTIONS

Study: Shifting Functions
Learn about shifting graphs of functions up/down and left/right by changing the coordinates of each ordered pair. Learn about changing the equation of a function to shift its graph vertically or horizontally and about combining vertical and horizontal shifts.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Shifting Functions Vertically
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs
20 mins Scoring: 20 points

Quiz: Shifting Functions Horizontally
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Quiz: Shifting Functions Vertically and Horizontally
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

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LESSON 5: STRETCHING FUNCTIONS VERTICALLY

Study: Stretching Functions Vertically
Learn about vertically stretching or compressing a function's graph by multiplying
by a constant; flipping the graph by multiplying by a negative constant; and combining vertical stretches with vertical or horizontal shifts.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Stretching Functions Vertically
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

LESSON 6: TRANSFORMATION OF PARENT FUNCTIONS

Study: Transformation of Parent Functions
Learn how to perform vertical shifts, horizontal shifts, vertical stretches and
compressions, horizontal stretches and compressions, and any combination of these transformations on parent functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Transformation of Parent Functions
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Transformations of Parent Functions
Use the modeling tool to transform a function.
Duration: 0
hrs 30 mins Scoring: 20 points

LESSON 7: ARITHMETIC OF FUNCTIONS

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Study: Arithmetic of Functions
Learn how to add, subtract, multiply, divide, and compose functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on the arithmetic of functions.
Duration: 0 hrs 25 mins

Quiz: Arithmetic of Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 8: PERFORMANCE TASK: TRANSFORMING FUNCTIONS

Study: Solving the Ball-Tossing Problem
Create an equation using data from a table, and graph the result.
Duration: 0 hrs 35 mins Scoring: 0 points

Project: Performance Task: 3-D Printer Business
Create an equation using data from a table, and graph the result.

Duration: 2 hrs Scoring: 150 points

LESSON 9: TRANSFORMING FUNCTIONS WRAP-UP

Checkup: Practice Problems
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Transforming Functions
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Test (CS): Transforming Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Transforming Functions

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Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 5: POLYNOMIAL FUNCTIONS

LESSON 1: POLYNOMIAL BASICS

Study: Polynomial Basics
Learn that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Basics
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Multiplying Polynomials
Use tiles to model the multiplication of binomials and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: POLYNOMIAL FUNCTIONS

Study: Polynomial Functions
Learn to identify, classify, evaluate, and graph polynomial functions and expressions. Practice writing polynomials in descending order, as well as using the degree of a given polynomial function to predict the general shape of its graph.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins

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Scoring: 20 points

LESSON 3: SYNTHETIC DIVISION

Study: Synthetic Division
Learn two methods for dividing polynomials — long division and synthetic division. Use synthetic division to expedite the process of finding factors and roots of polynomial expressions.
Duration: 0 hrs 35 mins
Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Synthetic Division
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 4: FACTORING POLYNOMIALS COMPLETELY

Study: Factoring Polynomials Completely
Learn about the remainder-factor theorem, rational-roots theorem, complex-conjugate theorem, and conjugate-radical theorem. Learn to use synthetic division to factor higher-order polynomials.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Remainder and Factor Theorems
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Quiz: Factoring Polynomials Completely
Take a quiz to check your understanding of what you have learned.
Duration:
0 hrs 20 mins Scoring: 20 points

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LESSON 5: SOLVING POLYNOMIAL EQUATIONS

Study: Solving Polynomial Equations
Find all solutions to polynomial equations.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on solving polynomial equations.
Duration: 0 hrs 25 mins

Quiz: Solving Polynomial Equations
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 6: GRAPHING POLYNOMIAL FUNCTIONS

Study: Graphs of Polynomial Functions
Learn to graph polynomial functions, identify zeros and write a polynomial function from its zeros.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Polynomial Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Designing a Mountain Landscape
Discuss with a peer the process for using binomials to design a curved mountain landscape.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: POLYNOMIAL IDENTITIES

Study: Polynomial Identities
Prove polynomial identities and use them to describe numerical relationships.
Duration: 0 hrs 35 mins Scoring: 0 points

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Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Identities
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 8: BINOMIAL THEOREM

Study: Binomial Theorem
Learn and apply the binomial theorem.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Binomial Theorem
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 9: TRANSFORMATIONS OF POLYNOMIAL FUNCTIONS

Study: Transformations of Polynomial Functions
Transform polynomial functions.
Duration: 0 hrs 35 mins Scoring: 0
points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Transformations of Polynomial Functions
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: POLYNOMIAL FUNCTIONS WRAP-UP

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Checkup: Practice Problems
Check your understanding of the unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Polynomial Functions
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 20
mins Scoring: 0 points

Test (CS): Polynomial Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0
hrs 40 mins Scoring: 50 points

Test (TS): Polynomial Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs
30 mins Scoring: 50 points

UNIT 6: ALGEBRA II SEMESTER 1 EXAM

LESSON 1: ALGEBRA II SEMESTER 1 EXAM

Review: Algebra II Semester 1 Exam
Get ready for the semester exam by reviewing important ideas and skills.

Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Algebra II Semester 1 Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Algebra II Semester 1.
Duration: 0 hrs 50 mins Scoring: 200 points

UNIT 7: RATIONAL EXPRESSIONS AND FUNCTIONS

LESSON 1: PROPORTIONS

Study: Proportions
Learn the definition of a rational expression and about using proportional reasoning to solve problems. Explore real-world examples of proportional reasoning.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

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Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Proportions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring:
20 points

LESSON 2: RATIONAL EXPRESSIONS

Study: Rational Expressions
Learn about finding the value of a rational expression and about undefined rational expressions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Rational Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 3: SIMPLIFYING RATIONAL EXPRESSIONS

Study: Simplifying Rational Expressions
Practice finding and dividing out common factors in numerators and denominators of rational expressions. Explore the crucial difference between common factors and terms.
Duration: 0 hrs
35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Simplifying Rational Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

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LESSON 4: MULTIPLYING AND DIVIDING RATIONAL EXPRESSIONS

Study: Multiplying and Dividing Rational Expressions
Review multiplying and dividing numerical fractions, multiplying rational expressions, dividing rational expressions, and simplifying the results.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Multiplying Rational Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Dividing Rational Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: ADDING AND SUBTRACTING RATIONAL EXPRESSIONS

Study: Adding and Subtracting Rational Expressions
Review adding and subtracting numerical fractions, adding and subtracting rational expressions with like denominators, finding least common denominators, finding multiples of rational expressions, and adding and subtracting rational expressions with unlike denominators.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Rational Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: INVERSE VARIATION

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Study: Inverse Variation
Review direct variation and how increasing input leads to proportionally increasing output.
Review inverse variation and how increasing input leads to proportionally decreasing output. Review finding the constant of variation.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Inverse Variation
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

Practice: Modeling: Finding the Constant in Inverse Variation
Create a graph using a table of inverse variation data,
and determine a constant value to create an approximate functional model.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: SOLVING RATIONAL FUNCTIONS

Study: Solving Rational Functions
Learn the definition of a rational function and how to find the domain of a given function. Explore the horizontal and vertical asymptotes of rational functions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Rational Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 8: VERTICAL ASYMPTOTES

Study: Vertical Asymptotes
Learn about graphs of rational functions, about finding vertical asymptotes, and about graphing rational functions with more than one vertical asymptote.
Duration: 0 hrs 35 mins Scoring: 0 points

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Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Finding Vertical Asymptotes
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs
20 mins Scoring: 20 points

Quiz: More Than One Vertical Asymptote
Take a quiz to check your understanding of what you have learned.
Duration:
0 hrs 20 mins Scoring: 20 points

Journal: Rural Wireless Internet
Formulate and evaluate an approach to increasing rural internet access, and discuss conclusions with a peer.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 9: GRAPHING RATIONAL FUNCTIONS

Study: Graphing Rational Functions
Learn about graphing rational functions with variables in the numerator, constructing a sign chart, and picking test numbers. Learn about rational functions with a singular point.
Duration: 0 hrs 35
mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Graphing Rational Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs
20 mins Scoring: 20 points

LESSON 10: RATIONAL EXPRESSIONS AND FUNCTIONS WRAP-UP

Checkup: Practice Problems
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins Scoring: 0
points

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Review: Rational Expressions and Functions
Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 20 mins Scoring: 0 points

Test (CS): Rational Expressions and Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Rational Expressions and Functions
Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 8: RADICAL EXPRESSIONS AND FUNCTIONS

LESSON 1: BASICS OF RADICALS

Study: Basics of Radicals
Learn the definition of radical expression. Explore simplifying the product and quotient of radicals and simplifying individual radicals.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Simplifying Products of Radicals
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Quiz: Simplifying Quotients of Radicals
Take a quiz to check your understanding of what you have learned.
Duration:
0 hrs 20 mins Scoring: 20 points

LESSON 2: MULTIPLYING AND DIVIDING RADICALS

Study: Multiplying and Dividing Radicals
Learn about multiplying and dividing radical expressions that include variables and about using the FOIL (first inner outer last) method to simplify radical expressions.

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Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Multiplying Radicals
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Dividing Radicals
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: ADDING AND SUBTRACTING RADICALS

Study: Adding and Subtracting Radicals
Learn about adding and subtracting radical expressions by combining like terms and about simplifying terms to get the same radicand.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Radicals
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: RATIONALIZING DENOMINATORS

Study: Rationalizing Denominators
Learn about rationalizing a denominator in order to simplify a fraction with a radical expression in the denominator. Learn about multiplying by the conjugate of a denominator.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

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Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Rationalizing Denominators
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs
20 mins Scoring: 20 points

Journal: Rationalizing Denominators
Discuss rationalizing denominators with a peer.
Duration: 0 hrs 30 mins Scoring:
20 points

LESSON 5: SOLVING RADICAL FUNCTIONS

Study: Solving Radical Functions
Learn how to solve equations with radical expressions by isolating the radical and squaring both sides.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Solving Radical Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20
mins Scoring: 20 points

LESSON 6: APPLICATIONS OF RADICAL EQUATIONS

Study: Applications of Radical Equations
Explore case studies in order to practice methods of solving radical equations in applied settings.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Applications of Radical Equations
Take a quiz to check your understanding of what you have learned.

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Duration:
0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Pendulums and Bridges
Create an equation to model pendulums and bridges.
Duration: 0 hrs 30
mins Scoring: 20 points

LESSON 7: RATIONAL EXPONENTS

Study: Rational Exponents
Learn about fractional exponents and *n*th roots, odd and even indices of radicals, the method
of notation for writing an *n*th root, the use of fractional exponents, and exponential expressions with decimal powers.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Fractional Exponents — Part 1
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Quiz: Fractional Exponents — Part 2
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

LESSON 8: REVIEW OF COMPLEX NUMBERS

Study: Review of Complex Numbers
Learn about square roots of negative numbers; imaginary units; parts of a complex
number; adding and subtracting complex numbers by collecting like terms and simplifying; multiplying two complex numbers using the FOIL method; and dividing complex numbers using complex conjugates.
Duration: 0 hrs 35 mins Scoring: 0
points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

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Quiz: Adding and Subtracting Complex Numbers
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Multiplying and Dividing Complex Numbers
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: PERFORMANCE TASK: THE SKID DISTANCE PROBLEM

Study: The Skid Distance Problem
Learn how the length of skid marks left by a vehicle is an application of square root functions. Use the skid distance equation to solve for drag factor of various road surfaces, as well as skid mark lengths and original speed of a variety of vehicles.
Duration: 0 hrs 35 mins Scoring: 0 points

Project: Solving the Skid Distance Problem
Assume the role of investigator and take on a skid distance problem.

Duration: 2 hrs Scoring: 120 points

LESSON 10: RADICAL EXPRESSIONS AND FUNCTIONS WRAP-UP

Checkup: Practice Problems
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Radical Expressions and Functions
Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 20 mins Scoring: 0 points

Test (CS): Radical Expressions and Functions
Take a computer-scored test to check what you have learned in this unit.

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Radical Expressions and Functions
Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 30 mins Scoring: 50 points

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UNIT 9: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

LESSON 1: GEOMETRIC SEQUENCES

Study: Geometric Sequences
Learn about geometric sequences and series.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on geometric sequences.
Duration: 0 hrs 25 mins

Quiz: Geometric Sequences
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring:
20 points

Practice: Modeling: Viral Videos
Model the growth of a viral video using geometric sequences.
Duration: 0 hrs 30 mins
Scoring: 20 points

LESSON 2: EXPONENTIAL FUNCTIONS

Study: Exponential Functions
Define the standard form of an exponential function and explore a variety of its
applications, such as exponential growth and decay (in the forms of doubling time and half-life), as well as compound interest. Compare compound interest to continuously compounded interest using the irrational number *e*.
Duration: 0 hrs
35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Evaluating Exponential Functions
Take a quiz to check your understanding of what you have learned.
Duration:
0 hrs 20 mins Scoring: 20 points

Quiz: Calculating Exponential Growth
Take a quiz to check your understanding of what you have learned.
Duration: 0

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hrs 20 mins Scoring: 20 points

LESSON 3: EXAMPLES AND APPLICATIONS OF EXPONENTIAL FUNCTIONS

Study: Examples and Applications of Exponential Functions
Explore case studies in exponential growth and decay
and logarithmic growth.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

LESSON 4: GRAPHS OF EXPONENTIAL FUNCTIONS

Study: Graphs of Exponential Functions
Learn about the shape of graphs of exponential functions with various bases
and about finding the domain and range of exponential functions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Exponential Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Journal: Exponential vs. Quadratic
Interpret a table of cell growth data, and discuss with a peer.
Duration: 0 hrs 30
mins Scoring: 20 points

LESSON 5: LOGARITHMIC FUNCTIONS

Study: Logarithmic Functions
Learn about undoing exponential functions, graphing the inverse of an exponential or
logarithmic function, and using the common and natural logarithm.
Duration: 0 hrs 35 mins Scoring: 0 points

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Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Logarithmic Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20
mins Scoring: 20 points

LESSON 6: GRAPHS OF LOGARITHMIC FUNCTIONS

Study: Graphs of Logarithmic Functions
Learn about the shape of graphs of logarithmic functions with various bases
and about the domain and range of logarithmic functions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Logarithmic Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

LESSON 7: PROPERTIES OF EXPONENTS AND LOGARITHMS

Study: Properties of Exponents and Logarithms
Learn about product, quotient, and power laws of exponents; rewriting
the log of a product as the sum of two logs; rewriting the log of a quotient as the difference of two logs; simplifying the log of a power; and using the change-of-base formula to rewrite logarithms.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Equivalent Exponential Expressions
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

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Quiz: Equivalent Logarithmic Expressions
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Evaluating Logarithms
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: SOLVING EXPONENTIAL EQUATIONS

Study: Solving Exponential Equations
Learn about using ordinary algebra and the properties of logarithms to solve exponential equations. Answer questions inspired by the classic chessboard problem.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Exponential Equations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: SOLVING LOGARITHMIC EQUATIONS

Study: Solving Logarithmic Equations
Learn about using ordinary algebra and the definition of a logarithm to solve logarithmic equations. Answer questions about energy in earthquakes.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Logarithmic Equations
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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LESSON 10: APPLICATIONS OF LOGARITHMS

Study: Applications of Logarithms
Solve application problems involving exponential and logarithmic expressions.

Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on applications of logarithms.
Duration: 0 hrs 25 mins

Quiz: Applications of Logarithms
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs
20 mins Scoring: 20 points

LESSON 11: COMPARING AND ANALYZING FUNCTION TYPES

Study: Comparing and Analyzing Function Types
Apply transformations to a variety of function families.
Duration: 0
hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Comparing and Analyzing Function Types
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 12: EXPONENTIAL AND LOGARITHMIC FUNCTIONS WRAP-UP

Checkup: Practice Problems
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins

Review: Exponential and Logarithmic Functions
Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 20 mins Scoring: 0 points

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Test (CS): Exponential and Logarithmic Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Exponential and Logarithmic Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 10: STATISTICAL ANALYSIS

LESSON 1: REVIEW OF GRAPHICAL ANALYSIS OF DATA

Study: Review of Graphical Analysis of Data
Learn about the different ways to express data graphically and the various shapes or properties these representations have.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Types of Data Displays
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Graphical Data Analysis
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: REVIEW OF NUMERICAL ANALYSIS OF DATA

Study: Review of Numerical Analysis of Data
Learn about the numerical analysis of data as it relates to means, medians, modes, IQR, outliers, test quartiles, box plots, variance, and standard deviation.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.

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Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Measures of Central Tendency
Take a quiz to check your understanding of what you have learned.
Duration: 0
hrs 20 mins Scoring: 20 points

Quiz: Quartiles and Box Plots
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20
mins Scoring: 20 points

Quiz: Measures of Spread
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 3: DATA GATHERING AND INFERENTIAL STATISTICS

Study: Data Gathering and Inferential Statistics
Investigate techniques for gathering data and explore how probability is
used in statistical inference.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Data Gathering and Inferential Statistics
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: RANDOM VARIABLES

Study: Random Variables
Explore random variable concepts such as discrete continuous variables, histograms, density
curves, mean, standard deviation of discrete random variables, normal curve, and *z*-score percentiles.
Duration: 0 hrs 35
mins Scoring: 0 points

Checkup: Practice Problems

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Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Random Variables
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

Quiz: Normal Curves
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

Journal: Cell Phone Battery Life
Evaluate the design and results of an experiment with a peer.
Duration: 0 hrs 30 mins
Scoring: 20 points

LESSON 5: EXPERIMENTAL DESIGN

Study: Experimental Design
Learn how to design and carry out an experiment employing the basic principles of experimental design.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Sampling and Simulation
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20
mins Scoring: 20 points

Quiz: Experimental Design
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 6: EVALUATING PUBLISHED REPORTS

Study: Evaluating Published Reports

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Learn how to evaluate the design of a study, the appropriateness of its analysis, and the validity of its conclusions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Evaluating Published Reports
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 7: APPLICATIONS OF STATISTICAL TECHNIQUES

Study: Applications of Statistical Techniques
Learn how statistical techniques are used to analyze real-world observational studies and experimental designs.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration:
0 hrs 25 mins Scoring: 0 points

Quiz: Applications of Statistical Techniques
Take a quiz to assess your understanding of the material.
Duration: 0 hrs
20 mins Scoring: 20 points

Practice: Modeling: Statistical Truth or Fiction?
Evaluate gathered data and make a prediction using statistical techniques.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 8: STATISTICAL ANALYSIS WRAP-UP

Checkup: Practice Problems
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins

Review: Statistical Analysis
Get ready for the unit test by reviewing important ideas and skills.

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Duration: 0 hrs 20 mins
Scoring: 0 points

Test (CS): Statistical Analysis
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs
40 mins Scoring: 50 points

Test (TS): Statistical Analysis
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30
mins Scoring: 50 points

UNIT 11: TRIGONOMETRY

LESSON 1: RIGHT TRIANGLES

Study: Right Triangles
Review right triangles and get an introduction to trigonometric ratios.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on trigonometry.
Duration: 0 hrs 25 mins

Quiz: Introduction to Trigonometry
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 2: ANGLES AND RADIANS

Study: Angles and Radians
Learn about angles expressed in degrees and radians.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on angles and radians.
Duration: 0 hrs 25 mins

Quiz: Angles and Radians
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring:
20 points

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LESSON 3: TRIGONOMETRIC RATIOS AND THE UNIT CIRCLE

Study: Trigonometric Ratios and the Unit Circle
Learn the six trigonometric ratios and how the unit circle defines them.

Duration: 0 hrs 35 mins

Study: Pythagorean Theorem
Review the Pythagorean theorem.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on trigonometric functions and the unit circle.

Duration: 0 hrs 25 mins

Quiz: Trigonometric Functions and the Unit Circle
Take a quiz to assess your understanding of the material.
Duration:
0 hrs 20 mins Scoring: 20 points

Journal: A Better Way?
Discuss a trigonometric "shortcut", and explain when it will and will not work.
Duration: 0 hrs 30
mins Scoring: 20 points

LESSON 4: GRAPHS OF SINE AND COSINE

Study: Graphs of Sine and Cosine
Learn to build the graphs of sine and cosine.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on graphs of sine and cosine.
Duration: 0 hrs 25 mins

Quiz: Graphs of Sine and Cosine
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 5: GRAPHS OF OTHER FUNCTIONS

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Study: Graphs of Other Functions
Learn the graphs of the other four trigonometric functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on graphs of other functions.
Duration: 0 hrs 25 mins

Quiz: Graphs of Other Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 6: SIMPLE TRANSFORMATIONS OF SINUSOIDS

Study: Simple Transformations of Sinusoids
Learn how to transform trigonometric graphs with reflections, shifts, and stretches.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on transformations of periodic graphs.
Duration: 0 hrs
25 mins

Quiz: Simple Transformations of Sinusoids
Take a quiz to assess your understanding of the material.
Duration: 0 hrs
20 mins Scoring: 20 points

LESSON 7: GENERAL TRANSFORMATIONS OF PERIODIC GRAPHS

Study: General Transformations of Periodic Graphs
Learn how to transform trigonometric graphs with reflections, shifts, and stretches.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on transformations of trigonometric functions.

Duration: 0 hrs 25 mins

Quiz: General Transformations of Periodic Graphs
Take a quiz to assess your understanding of the material.

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Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Riding the Circular Wave
Model real world data using a periodic function.
Duration: 0 hrs 30 mins
Scoring: 20 points

LESSON 8: IDENTITIES AND PROOF

Study: Identities and Proof
Learn how to prove identities.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on identities and proof.
Duration: 0 hrs 25 mins

Quiz: Identities and Proof
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: TRIGONOMETRIC IDENTITIES

Study: Trigonometric Identities
Learn the key trigonometric identities.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on trigonometric identities.
Duration: 0 hrs 25 mins

Quiz: Trigonometric Identities
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins
Scoring: 20 points

LESSON 10: TRIGONOMETRY WRAP-UP

Checkup: Practice Problems
Check your understanding of the unit.

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Duration: 0 hrs 25 mins Scoring: 0 points

Review: Trigonometry
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 20 mins
Scoring: 0 points

Test (CS): Trigonometry
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40
mins Scoring: 50 points

Test (TS): Trigonometry
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins
Scoring: 50 points

UNIT 12: ALGEBRA II SEMESTER 2 REVIEW AND EXAM

LESSON 1: ALGEBRA II SEMESTER 2 REVIEW AND EXAM

Review: Algebra II Semester 2 Review and Exam
Get ready for the semester exam by reviewing important ideas and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Algebra II Semester 2 Review and Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Algebra II Semester 2.
Duration: 0 hrs 50 mins Scoring: 200 points

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